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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/433,062	11/03/1999	Thomas A. Skupien	MEMS-038	2000

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EXAMINER	
ROY, SIKHA	

ART UNIT	PAPER NUMBER
2879	

DATE MAILED: 12/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/433,062	SKUPIEN, THOMAS A.	
	Examiner	Art Unit	
	Sikha Roy	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 September 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

The Amendment, filed on September 22, 2003 has been entered and is acknowledged by the Examiner.

Claim Objections

Claim 18 is objected to because of the following informality:

Claim 18 is copy of claim 16 and hence one of the two claims must be cancelled.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 13,14,16, 18 - 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent 5,394,054 to Chen et al. in view of U.S. Patent 5,327,044 to Chen ('044).

Regarding claims 13,14 and 16 Chen et al. disclose (column 4 lines 48-67,column 2 lines15-34, Fig.4) a cathode ray tube 78 including a neck portion and a funnel portion, comprising of a plurality of conductive stem pins 36 at the end of the neck portion and electron gun 60 positioned in the neck including triode comprising a heated cathode 62 for emitting electrons, a biasing electrode G1 and an accelerating electrode G2 forming the electron beam and plurality of electrodes (grids G3, G4 and G5) for focusing electron beam 73. The second accelerator electrode (G3 grid 68), a

cylindrical element smaller in diameter than the neck is connected to anode potential V_A. The focus electrode (G4 grid 70) is coupled to and charged by a focus voltage V_F, where $V_F < V_A$.. The second accelerating electrode and the focus electrode together comprise the first lens. The second lens is formed between the focus electrode G4 and accelerating grid G5 which is connected to the conductive coating 46 disposed on the inner surface of the neck and the funnel of the glass envelope connected to high anode voltage V_A via the anode button 44 in the neck.

Regarding claim 13 Chen et al. do not disclose explicitly the second lens formed between the focus electrode and the continuous internal coating.

Chen ('044) in same field of endeavor of electron beam deflection lens for CRT discloses (column 7 lines 15-40, Fig. 4a) the second lens (main focus lens) formed between the focus electrode G3 and electrode G4 formed of a conductive coating deposited on the inner surface of the glass envelope coupled to the anode button. Chen ('044) further notes (column 3 lines 15-30) this design provides increased deflection sensitivity of the electron beam and increases the equivalent electron beam focus lens size in CRT for reducing spherical aberration effect of the lens on the beam for improved electron beam spot size on the display screen.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the second lens of Chen et al. by the lens formed between focus electrode and the conductive coating as taught by Chen ('044) for providing increased deflection sensitivity of the electron beam and increasing the equivalent electron beam

focus lens size in CRT for reducing spherical aberration effect of the lens on the beam for improved electron beam spot size on the display screen.

Chen et al. disclose (column 2 lines 20-25) the neck portion of CRT fitted to a base member comprising plurality of conducting pins 36. Pins extend through an end and are electrically coupled to various electrodes. Pins are further coupled to power supply for providing voltages V_F, V_A. It would have been obvious to one having ordinary skill in the art at the time of invention to connect the second accelerating electrode to high voltage V_A through the isolated high voltage stem pin and focusing electrode to focus voltage V_F through the low voltage stem pin V_F being less than V_A.

Regarding claim 14 Chen et al. disclose the second accelerating electrode is connected to external potential which is same as anode potential.

Claim 16 recites the limitations of claims 13 and 14 and hence is rejected for similar reasons.

Claim 18 is copy of claim 16 and hence is rejected for the same reason.

Claim 19 recites the limitations of an einzel lens which are same as of claim 13, the einzel lens comprising of first lens with second accelerator electrode and the focus electrode and second lens between the focus electrode and the internal conductive coating connected to the anode potential through the anode button as disclosed by Chen et al. and Chen ('044). Hence claim 19 is rejected for the same reason as of claim 13.

Claim 20 essentially recites the same limitations as of claim 14 and hence is rejected for the same reason.

Claims 15, 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent 5,394,054 to Chen et al. and U.S. Patent 5,327,044 to Chen and further in view of applicant's admitted prior art.

Claim 15 differs from Chen et al., Chen ('044) and Matsumoto et al. in that Chen and Matsumoto do not exemplify the anode potential being less than or equal to 12 KV.

In the section of description of the related art applicant discloses (page 4 lines 24-28) einzel guns with short focal length and large deflection angle having anode potential less than 12 kilovolts are suited for low-voltage applications and are used for helmet-mounted and hand-held displays.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the anode potential of the CRT of Chen and Matsumoto et al. less than or equal to 12 kilovolts as suggested by applicant's admitted prior art for using the einzel gun for low voltage applications.

Claim 17 essentially recites the same limitation as of claim 15 and hence is rejected for the same reason.

Claim 21 essentially recites the same limitation as of claim 15 and hence is rejected for the same reason.

Response to Arguments

Applicant's arguments with respect to claim 13, have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (703) 308-2826. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

S.R.

Sikha Roy
Patent Examiner
Art Unit 2879

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